

# MYSTIC RIVER CONNECTICUT

## SURVEY

(REVIEW OF REPORTS)



U.S. ARMY ENGINEER DIVISION, NEW ENGLAND  
CORPS OF ENGINEERS WALTHAM, MASS.

25 JUNE 1963

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## SYLLABUS

The Division Engineer finds that the existing project at Mystic River, Connecticut is adequate for present traffic and that which can reasonably be anticipated in the future. He recommends that no further consideration be given to modification of the existing navigation project for the Mystic River, Connecticut, at this time.

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	Map Accompanying Report:	
	Report Map-File No. Mc 396	

U. S. ARMY ENGINEER DIVISION, NEW ENGLAND  
CORPS OF ENGINEERS  
424 Trapelo Road  
Waltham 54, Mass.

NEDGW

25 June 1963

SUBJECT: Survey (Review of Reports) of Mystic River, Connecticut

TO: Chief of Engineers  
ATTN: ENGCV-P  
Washington 25, D. C.

AUTHORITY

1. This report is submitted in compliance with a resolution adopted 10 November 1956 by the Committee on Public Works of the United States Senate, as follows:

"RESOLVED BY THE COMMITTEE ON PUBLIC WORKS OF THE UNITED STATES SENATE, that the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby, requested to review the report on Mystic River, Connecticut, published as House Document Numbered 349, Seventy-seventh Congress, First Session, with a view to determining the advisability of modifying the existing project at the present time."

PURPOSE AND EXTENT OF STUDY

2. This study was made to determine if any modification of the existing project is advisable at this time. A public hearing was held in Mystic, Connecticut on 23 April 1958 to determine the nature and extent of local desires. Subsequent to the hearing, a detailed hydrographic survey consisting of soundings and probings was made, and all available maps, charts and pertinent data were studied. All parties known to be interested in the study were contacted recently and afforded full opportunity to express their views concerning the character and extent of the improvement desired.

LOCATION AND DESCRIPTION

3. Mystic River is a tidal arm in the southeastern part of the State of Connecticut. At the head of tidewater near the village of Old Mystic it receives the discharge of several small fresh water streams having a total drainage area of about 27 square

miles. It then flows southerly for a distance of 6 miles past the unincorporated villages of Mystic and West Mystic to Noank where it enters Fishers Island Sound about 5 miles east of New London Harbor on the Thames River. The mean tidal range near the mouth of Noank is about 2.6 feet.

#### TRIBUTARY AREA

4. The Mystic River forms the boundary between the town of Stonington to the east and the town of Groton to the west as shown on the accompanying map. The business district of Groton is located along the left bank of the Thames River at the west side of the town. The center of Stonington is located at Stonington Harbor about 3.7 miles east of Mystic Harbor. Mystic and Old Mystic are subdivisions of Stonington, and Noank and West Mystic are subdivisions of Groton. In 1960 Stonington had a population of 13,969 and Groton, 29,937.

5. These two towns are served by bus lines to Norwich and New London, and by the Shore Line of the New York, New Haven, and Hartford Railroad. This railroad maintains a swing bridge across the river between the southern sections of Mystic and West Mystic. The bridge has a closed vertical clearance of 4.5 feet at mean high water, and a minimum horizontal clearance of 63 feet. About one quarter mile above the railroad bridge is the U. S. Route No. 1 highway bridge, a bascule-type bridge having a closed vertical clearance of 4.5 feet at mean high water and a horizontal clearance of 65 feet. About 1-3/4 miles above the railroad bridge, the Interstate 95 bridge is now under construction. When completed it will have a fixed vertical clearance of 25 feet above mean high water and a horizontal clearance of 100 feet.

#### PRIOR REPORTS

6. Mystic River has been the subject of nine previous reports. Pertinent data on the most important of these are given in the following tabulation:

<u>Published in</u>	<u>Nature and Date of Report</u>	<u>Work Considered and Recommendation</u>
Annual Report of C. of E. 1889 p. 746	Survey 26 Oct 1888	15-foot channel to highway bridge. Favorable. Adopted by R&H Act of 19 Sept 1890
Hse. Doc. No. 858, 61st Cong. 2d Sess.	Prelim. Exam 29 May 1909 Survey 14 March 1910	Restoration and maintenance of channel to highway bridge. Favorable. Adopted by R&H Act of 25 July 1912

<u>Published In</u>	<u>Nature and Date of Report</u>	<u>Work Considered and Recommendation</u>
Hse. Doc. No. 637, 62d Cong. 2d Sess.	Prelim. Exam 21 Jun 1911 Survey 14 Nov 1911	Provision of 12-foot channel above highway bridge. Favor- able. Adopted by R&H Act 4 Mar 1913
Hse. Doc. No. 56, 64th Cong. 1st Sess.	Preliminary 30 Jul 1915	Provision of new channel from Mason Pt. to Noank. Unfavorable.
Hse. Doc. No. 349, 77th Cong. 1st Sess.	Prelim. Exam & Survey 31 Jan 1941	Channel widening and deep- ening, addition of a turn- ing basin at head of proj- ect, addition of anchorage off Mason Island. Favor- able. Adopted by R&H Act of 2 Mar 1945
Hse. Doc. No. 411, 87th Cong. 2d Sess.	Interim Rept. 15 Jul 1960	Hurricane Barrier across Mystic Harbor from Sixpenny Is. to Mason Is. then east to mainland. Gates provided in navigation channel. Favorable. Authorized by Flood Control Act of 23 Oct 1962

#### EXISTING CORPS OF ENGINEERS PROJECT

7. The existing navigation project was adopted in 1890, and modified in 1912, 1913 and 1945. It provides for a channel 15 feet deep, generally 125 feet wide from Fishers Island Sound to Murphy Point, about 600 feet below the railroad bridge at Mystic, thence 15 feet deep and 100 feet wide to the highway bridge, thence 12 feet deep and 80 to 90 feet wide to a point 700 feet above the wharf of the Marine Historical Association for a total length of 3.75 miles; an anchorage 9 feet deep and 8.5 acres in area north of Mason Island; and a turning basin 9 feet deep, 200 feet wide and 200 feet long north of the railroad bridge. The existing project was completed in 1957.

8. The most recently reported controlling depths are as follows: 15 feet in the 15-foot channel (1961); 8.3 feet in the 12-foot channel (1961); 9 feet in the 9-foot anchorage (1957); and 9 feet in the 9-foot turning basin (1957).

9. The total Federal costs under the existing project from regular funds have been \$233,589, of which \$160,891 was for new work and \$72,698 was for maintenance. The average annual maintenance cost during the past 5 years was \$5,687.

## LOCAL COOPERATION ON EXISTING AND PRIOR PROJECTS

10. Prior to 1945, no conditions of local cooperation were required, and there is no record of expenditures by local interests for improvement of the river in the interest of general navigation. In the project modification authorized in 1945, local interests were obligated to make a cash contribution of \$14,000 towards the cost of the anchorage north of Mason Island. In addition, local interests were required to provide a free, public small-boat terminal adjacent to the turning basin. Total actual costs of all requirements of local cooperation amounted to \$16,000. Local interests fully complied with all items of local cooperation.

## OTHER IMPROVEMENTS

11. In the past the Mystic River and Harbor area has experienced serious hurricane tidal flooding. As a result of studies conducted by the Corps of Engineers, a hurricane protection barrier across Mystic Harbor midway between Fishers Island Sound and the railroad bridge was authorized by the Flood Control Act of 1962. The authorized project includes a gated barrier extending across Mystic Harbor from Sixpenny Island to Mason Island, a barrier along the causeway connecting the northeast corner of Mason Island to the mainland and three land dikes to complete the closure. No funds have been authorized for construction of the project.

## TERMINAL FACILITIES

12. There are four shipyards along the river - one at Noank, one in West Mystic below the railroad bridge, and two just above the bridge, one each at West Mystic and Mystic. These shipyards are capable of hauling and servicing boats varying in length from small outboards to well over 100 feet. In addition to the shipyards there is a large marina on the northwest end of Mason Island, with 150 berths 8 feet deep.

13. On the west side of the river just below the U. S. Route 1 bridge the town of Groton maintains a public landing, 8 feet wide and 94 feet long. Although there are several parcels of municipally-owned land along the east bank, there is no public landing on the Stonington side of the river.

14. There are numerous private landings for recreational craft scattered along the river. Since the public hearing private marina-type facilities for about 400 boats have been constructed. There is one dock along the west bank between the two bridges, which is used for all the fish landings in the harbor, and one wharf owned by the Marine Historical Association on the east bank at the head of the existing Federal project. The latter wharf is part of Mystic Seaport,



a reconstructed seacoast village of the nineteenth century, complete with historic sailing vessels, ship models and nautical relics. Since the public hearing the Association has doubled its berth facilities for visiting craft.

15. There are no docks or piers for the receipt of coal or petroleum commerce and these products are brought in by rail or truck, principally from New London. The locations of pertinent docks and terminal facilities are shown on the map accompanying this report.

#### COMMERCE AND VESSEL TRAFFIC

16. The Mystic River is used primarily by fishing and recreational craft. The latest published statistics show that 27 tons of fish were landed in 1961. This shows a sharp decrease from the 670 tons reported in 1955 and the 163 tons reported in 1956. Commerce was carried in vessels ranging up to 9 feet in draft.

17. Recreational boating in the Mystic River has increased in recent years. It is estimated that over 600 recreational craft use the river as a homeport, and that about 800 boats are stored in the harbor area during the winter months. There is also a large visiting fleet which is attracted, primarily during the summer months, by the museum at Mystic Seaport. During the months of July and August in 1960, over 2000 visiting craft berthed overnight at Mystic Seaport. It is estimated that 500 or 600 were turned away for lack of berthing space.

18. Some idea of the amount of vessel traffic in the river can be gained by the number of times the railroad and highway bridges were opened each year. Both bridges have a 4.5 foot vertical clearance at mean high water and must be opened for passage of all but the smallest craft. In 1960 the railroad bridge was opened 5,731 times, and the highway bridge 2,506 times. The number of boats passing the highway bridge during these openings was 5,679. There are no similar boat figures for the railroad bridge.

#### IMPROVEMENTS DESIRED

19. A public hearing was held at Mystic on 23 April 1958 to ascertain the needs and desires of local interests. Excluding representatives of the Corps of Engineers, 17 people attended the hearing. Two of these were representatives of State agencies and three were newspaper reporters. No specific plan of improvement was presented at the hearing by either town. Individual requests for improvement were many and varied, but fell into several general categories, consisting of expanding the existing anchorage; widening various sections of the channel and easing several bends below the Route 1 bridge; extending the Federal channel to Old Mystic; providing anchorages in several different locations; and raising the railroad bridge.



20. The boat-use information received at the public hearing did not afford sufficient basis to evaluate the economics of the improvements requested at the hearing. A representative of the Connecticut State Water Resources Commission recognized the insufficiency of the boat-use information presented at the hearing and offered the assistance of his office in gathering information so that an adequate project report could be produced. Continued attempts by the Corps of Engineers and the Connecticut Water Resources Commission to secure the necessary information have met with limited success.

#### DISCUSSION

21. The existing Federal navigation project at Mystic River, as described in Paragraphs 7 and 8 of this report, is of sufficient depth to accommodate all present and prospective traffic. In recent years there has been no appreciable deep-draft commercial navigation. Fish landings, the only reported commerce, amount to an average of less than 25 tons annually. The largest fishing vessels presently used in Mystic River draw 9 feet, and have need to use only the lower section of the existing project which is 15 feet deep. The existing width of this portion of the project varies from 125 feet to 100 feet, and appears to be adequate at this time. Local interests have not presented any evidence to justify widening the channel or easing the bends in this section of the channel.

22. In contrast to the decrease in commercial traffic, there has been a sharp increase in recreational boat activity. A substantial part of this activity is due to visiting craft which are attracted to the Marine Historical Association museum at Mystic Seaport. The Association has already increased its berthing facilities by about 1,000 feet since the public hearing, in order to accommodate visiting craft.

23. The existing Federal anchorage has had limited use since its construction in 1957. Open anchorages do not appear to be as practical or as popular as marina-type finger piers or other dock-side arrangements. Because of the 2.5-foot range in tide, this latter type appears to be more economical than open anchorages. Since the public hearing in 1958, over 500 marina-type berths have been constructed in Mystic River.

24. The requests made at the public hearing for navigation improvements have not been substantiated by sufficient data on boating activities to warrant further modification of the existing Federal project. Information obtained subsequently also indicates the validity of this conclusion. There has been little indication that local interests desire, or are willing, to participate in further improvement. It is therefore considered that the existing project is adequate at this time to meet the navigation needs of Mystic River.

### CONCLUSION

25. The Division Engineer finds that the existing project at Mystic River, Connecticut is adequate for present traffic and for that which may reasonably be anticipated in the future.

### RECOMMENDATION

26. The Division Engineer recommends that no further consideration be given to modification of the existing navigation project for Mystic River, Connecticut at this time.

P. C. HYZER  
Brigadier General, USA  
Division Engineer

## MYSTIC RIVER, CONNECTICUT

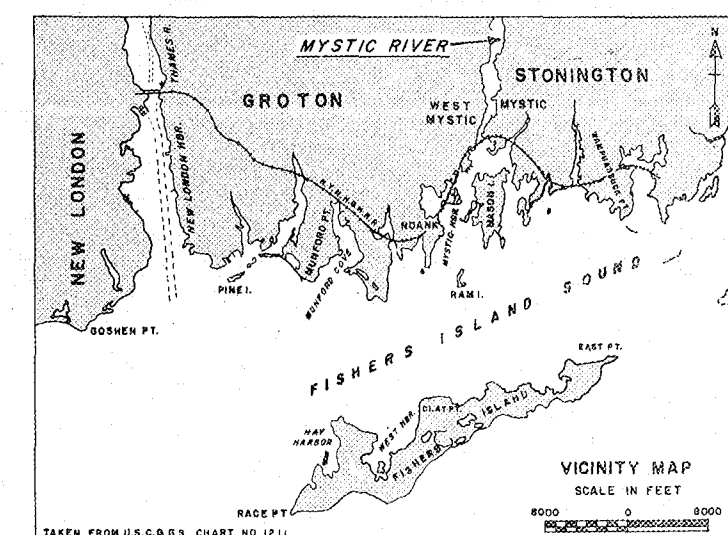
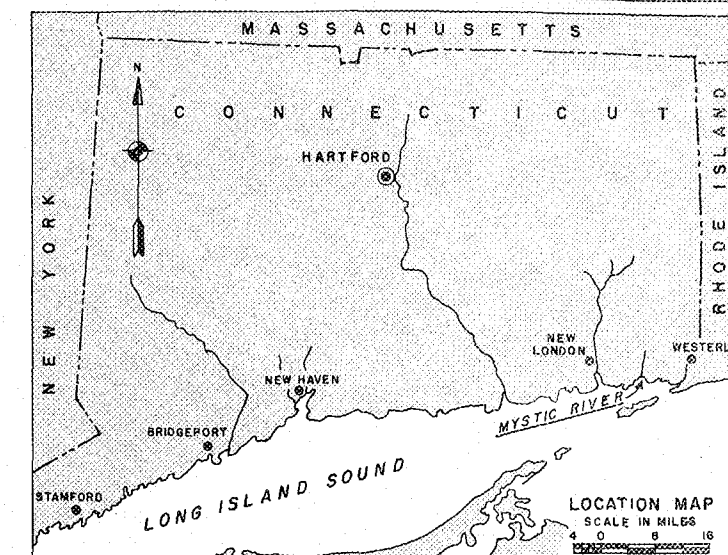
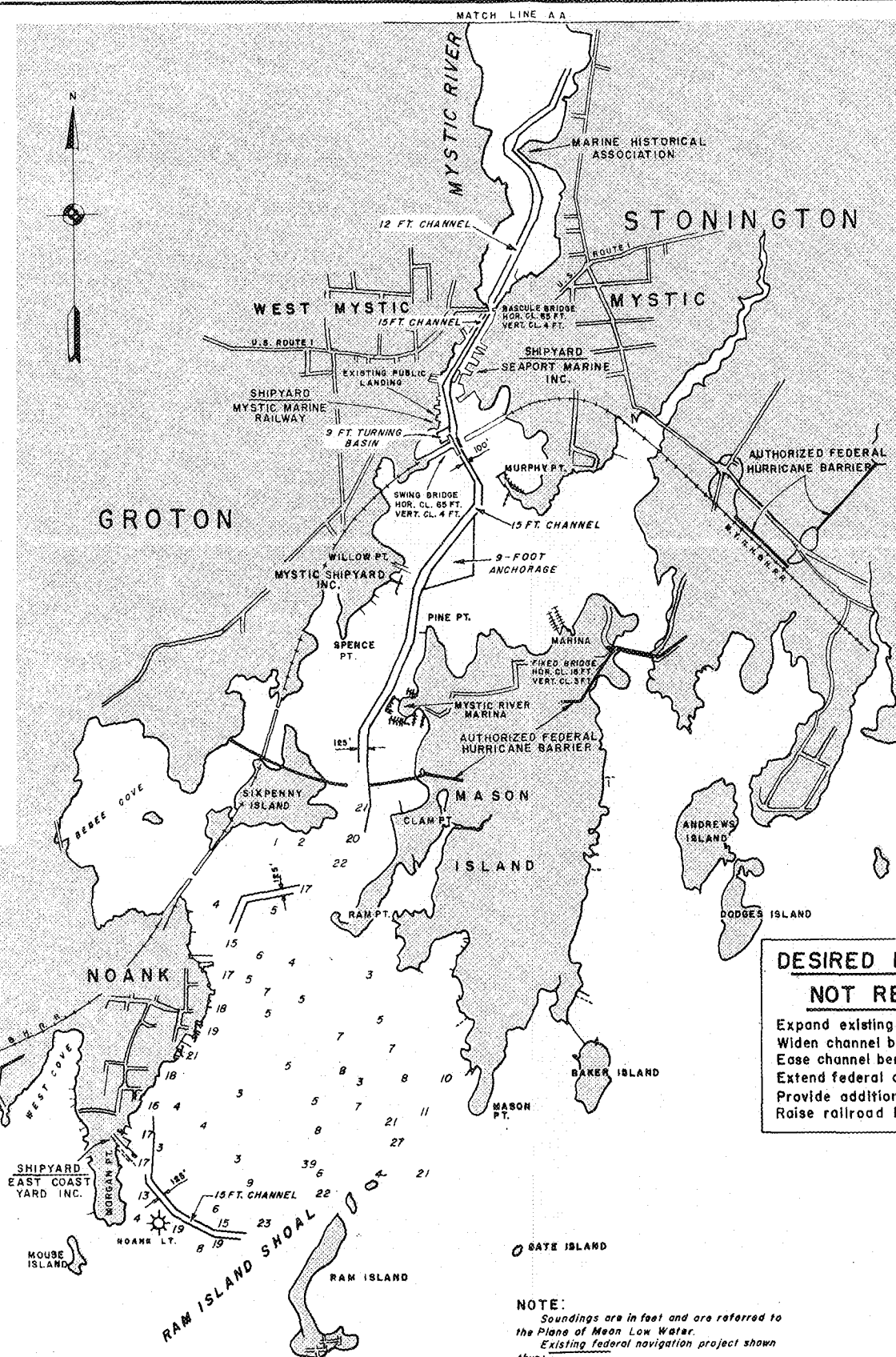
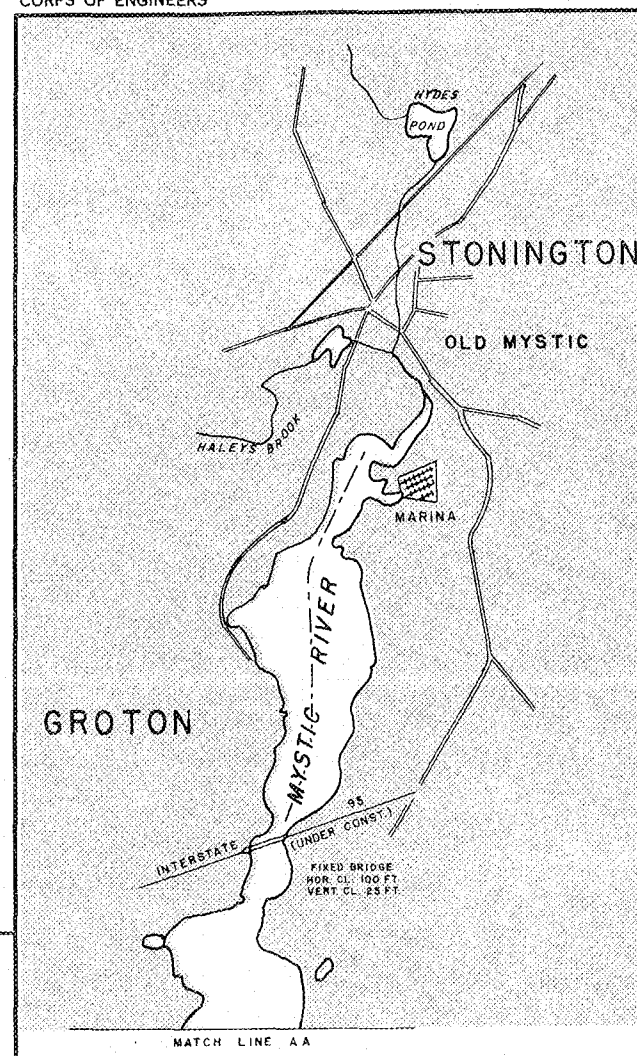
Information Called for by  
Senate Resolution 148, 85th Congress  
Adopted 28 January 1958

1. Improvements Desired. - A public hearing was held at Mystic, Connecticut, on 23 April 1958. Excluding representatives of the Corps of Engineers, 17 people attended the hearing. Two of these were representatives of State agencies and three were newspaper reporters. No specific plan of improvement was presented at the hearing. Individual requests for improvement were many and varied, but generally consisted of expanding the existing anchorage; widening various sections of the channel and easing several bends below the U.S. Route No. 1 bridge; extending the Federal channel up-river to Old Mystic; providing open anchorages in several different locations; and raising the railroad bridge.

2. Discussion. In recent years there has been no appreciable deep-draft commercial navigation on the river. Fish landings, the only reported commerce, amount to an average of less than 25 tons annually. The largest fishing vessels presently used in Mystic River draw 9 feet, and have need to use only the lower section of the existing project which is 15 feet deep. Local interests have not presented any evidence to justify widening the channel or easing the bends.

3. There has been a sharp increase in recreational boat activity in recent years; however, this appears to be due largely to visiting craft attracted by the Marine Historical Association museum at Mystic Seaport. The Association has already increased its berthing facilities by about 1,000 feet since the public hearing. During the same period over 500 marina-type berths have been constructed in the Mystic area. In contrast to recent marina development, the existing Federal open anchorage has had only limited use since its construction in 1957.

4. Conclusion. The requests for navigation improvements made at the public hearing, have not been substantiated by sufficient data on boating activity to justify further modification of the existing Federal project. There has been little indication that local interests desire, or are willing, to participate in further improvement. It is therefore considered that the existing project is adequate for the present and future navigation needs of Mystic River.



### DESIRED IMPROVEMENTS NOT RECOMMENDED

Expand existing federal anchorage  
Widen channel between bridges  
Ease channel bends below railroad bridge  
Extend federal channel up river  
Provide additional anchorages  
Raise railroad bridge

NOTE:  
Soundings are in feet and are referred to  
the Plane of Mean Low Water.  
Existing federal navigation project shown  
thus: \_\_\_\_\_

U.S. ARMY ENGINEER DIVISION, NEW ENGLAND CORPS OF ENGINEERS, WALTHAM, MASS.	
<b>MYSTIC RIVER, CONN.</b>	
SHEET 1 OF 1	SCALE IN FEET 1000 0 1000 2000 3000
APPROVED: <i>[Signature]</i> CHIEF, ENGINEERING DIVISION	TO ACCOMPANY SURVEY REPORT DATED JUNE 25, 1953
SUBMITTED: <i>[Signature]</i> CHIEF, PLANNING AND REPORTS BRANCH	FILE NO. MC. 396
DR. ST. S. J. B. CHIEF, RIVER AND HARBOR SECTION	
DR. ST. S. J. B. CHIEF, RIVER AND HARBOR SECTION	